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Mr. Tiénou-Gustafson & Mr. Biellemeier

Geometry, Period _____

Due Date: Thu, May 14, 2015

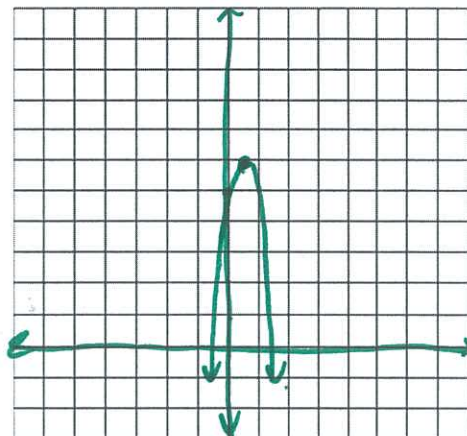
HW155 Graphing Quadratics part 2

**Geometry
Homework**

I. Graphing. Use your graphing calculator to answer the questions below. Although each graph will be given in the formula of $h = at^2 + bt + c$ (h for height, t for time), you will need to graph them as $y = ax^2 + bx + c$ on your calculator. Trace the graph of each problem, then answer the questions. The graph does not need to be perfect, just have a reasonably close height & x-intercepts.

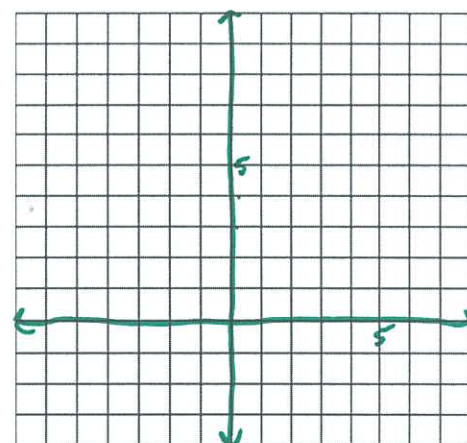
1. $h = -16t^2 + 8t + 5$

- Graph the parabola on your calculator, then sketch here:
- What is the vertex? _____
- Is this a minimum or a maximum? _____
- What is the height after 1 second? _____
- How many x-intercepts are there? _____
What are they? _____
- At what time did the ball hit the ground? _____



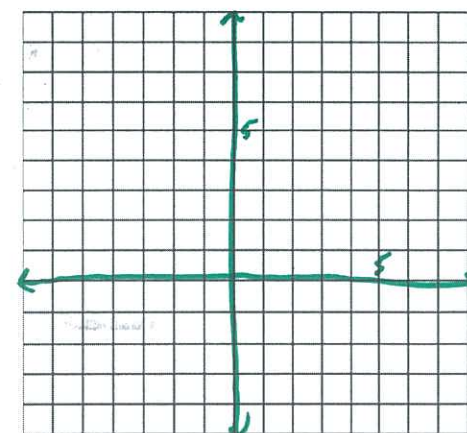
2. $h = -4t^2 + t + 8$

- Graph the parabola on your calculator, then sketch here:
- What is the vertex? _____
- Is this a minimum or a maximum? _____
- What is the height after 1 second? _____
- How many x-intercepts are there? _____
What are they? _____
- At what time did the ball hit the ground? _____

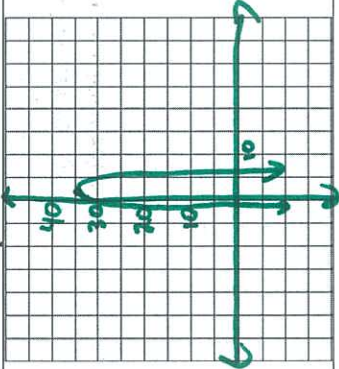
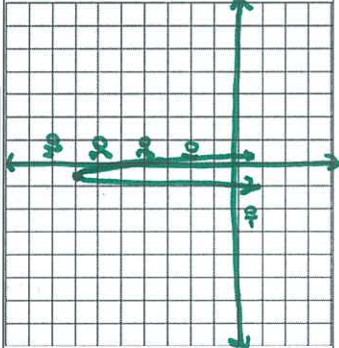
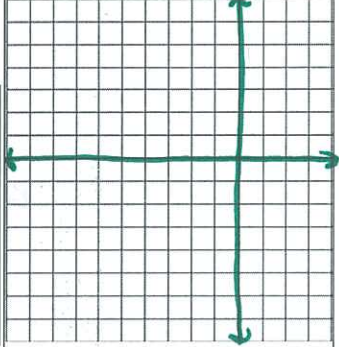
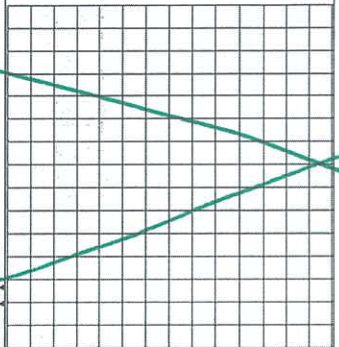


3. $h = -9.1t^2 - 3t + 7$

- Graph the parabola on your calculator, then sketch here:
- What is the vertex? _____
- Is this a minimum or a maximum? _____
- What is the height after 1 second? _____
- How many x-intercepts are there? _____
What are they? _____
- At what time did the ball hit the ground? _____



III. Below are equations for four different balls that were released under slightly different conditions. Explain each one.

Question: answer to right	A) $h = -16t^2 + 40t + 10$	B) $h = -16t^2 - 40t + 10$	C) $h = -16t^2 + 40t$	D) $h = -16t^2 + 10$
1. What are the a , b , & c values of the quadratic equation?	$a =$ $b =$ $c =$	$a =$ $b =$ $c =$	$a =$ $b =$ $c =$	$a =$ $b =$ $c =$
2. What is the starting height? (it's your c term)				
3. What is the starting speed? (it's your b term)				
4. How was the ball released? (thrown up, down, or dropped)	Positive b term means it was thrown up	Negative b term means it was	Positive b term means it was	No b term means it was dropped
5. Graph the arc of the ball's projectile motion (parabola) for each equation				
6. What is the vertex of the parabola?				
7. Is the vertex a minimum or a maximum?				
8. What is the height of the ball after 0.5 second?	Plug in .5 for t	Plug in .5 for t	Plug in .5 for t	Plug in .5 for t
9. Which answer to #8 does not make sense (A, B, C, or D)? Why?	SKIP			
10. What are the two x-intercepts?				
11. Which x-intercept is when the ball hit the ground?	Which x intercept is positive?	Which x intercept is positive?	Which x intercept is positive?	Which x intercept is positive?
12. How were you able to eliminate the other possible solution in all of these graphs?	SKIP			